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SEASONAL CHANGES IN NUMBERS OF WADERS AT CAPE COAST, GHANA

by M. A. Macdonald

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Many of the salt-water lagoons on the coast of Ghana have been converted to pans for evaporation of salt. This habitat is very attractive to waders and the larger salt-works at Weija (near Accra) and Elmina (near Cape Coast) hold wintering populations of several hundred or more birds of many species. Migrants from Europe and the Arctic are especially well represente

This paper describes the seasonal variations in numbers of waders on a small area of salt-pans and associated marsh and mangrove swamp at Iture, 05°05'N, 01°22'W, about 10 km west of Cape Coast, Ghana. The pans at Iture, although much smaller and holding fewer birds than those at Elmina a few km farther west, had several advantages as a study area: the birds could be counted quickly and accurately; there was almost no disturbance; there was little movement of waders into or out of the area during a count (large-scal movements at Elmina made accurate counts very difficult); and the greater diversity of habitat at Iture probably attracted a slightly greater variety of waders.

Methods

Ninety-six counts were made, about twice weekly in the winter and weekly in the summer, between 24 March 1976 and 3 July 1977, covering one arrival and two departures of the northern migrants. All counts were made between 1600 and 1730 h GMT. By driving slowly through the middle of the area of pans the birds could easily be counted individually. The commonest species were counted twice and the higher count entered in the records. A brief walk of about 300 m through the marsh and mangrove areas completed the count.

Results

Twenty-one species of wader (Charadriidae) and a pratincole (Glareolidae) were recorded. Seasonal changes in numbers are described below and a brief qualitative description of the habitat preferences from my experience in southern Ghana is provided. The results for the main species are summarised in Table 1.

Table 1 Summary of seasonality of waders at Iture and at Weija, Ghana

		First date	Main Season	Last date	Summer	No. weeks late at Cape Coast
P. squatarola	Iture	(24 Oct)	late Oct-late May	(7 Jly, 5 Jun)	+	12
	Weija	late Jly-4 Aug	late Jly-May	-	+	
C. hiaticula	I	(10 Oct)	mid Oct-May	(1, 31 May)	+	9-10
	W	29 Jly-2 Aug	Jly/Aug-May	-	+	
C. dubius	I	17 Oct	mid Nov-late Dec	< 24, 30 Mar		-
N. phaeopus	I	(23 Aug)	except Jly	-	+	1-3
	W	3-14 Aug	-	-	+	
T. nebularia	I	(23 Aug)	except Jly-Aug	(7 Jly, 26 Jun)	+	2-3
	W	1-10 Aug	-		+	
T. glareola	I	(23 Aug)	late Aug-early May	1, 5 May	+	3-5
	W	19 Jly-2 Aug	mid Jly/Aug-late Apr	6 May	+	
T. hypoleucos	I	-	except Jun	-	+	-
	W	29 Jly-4 Aug	-	-	+	
T. totanus	I	23 Aug	mid Sep-Apr/May	5 May, 20 Apr		3-6
	W	29 Jly-4 Aug	early Aug-May			
T. erythropus	I	10 Oct		1 May, 30 Mar		5-6
	W	22 Aug-3 Sep		"May"		
C. minuta	I	23 Aug	early Oct-late Apr	5, 8 May		2-6
	W	2 Aug-5 Aug	late Aug-Apr	"May"		

Values in the right-hand column are based both on first dates and on the beginning of the main seasons at Cape Coast and Weija. Obvious summering records are excluded and extreme dates at Iture for those species which summered are in parenthesis. Some species for which insufficient data exist are omitted.

The date 23 August 1976 occurs frequently in the results. On that date, which followed a period of some 15 hours in which over 60 mm rain fell, there was a very obvious influx of waders of several species. They may well have been migrating when the heavy overcast and rain forced them down.

Where relevant, observations from other less frequently visited parts of Ghana are detailed.

Systematic List

GREY PLOVER Pluvialis squatarola (Fig. 1) Present throughout the year but infrequent and in small numbers between June and October. The main season was between late October and late May, when numbers varied between six and ten. No indications of passage. Coastal, including open shores.

RINGED PLOVER Charadrius hiaticula (Fig. 1) Apart from three summer records (up to five birds between 24 June and 7 July 1976) and one on 27 August 1976 all fell in the periods up to 5 May 1976, and between 17 October 1976 and 31 May 1977. More numerous 15 February to 27 March (13-19 birds on 10 counts) than in the remainder of the season (0-8 birds on 41 counts). Lagoons and salt-pans.

LITTLE RINGED PLOVER C. dubius (Fig. 1) The only record in 1975-76 was of three birds on 18 January, before the scheduled counts began. No birds were recorded thereafter until 17 October 1976. From 12 November to 30 December numbers were high (over 12 on 9 out of 14 counts) then low (below 12) until 5 February when peaked at 32 birds. Second peak of 17 on 23 February, tailing off until 30 March. Highest numbers preceded peak of C. hiaticula, possibly reflecting some ecological interaction. Species very local; my only other records were from Ankaful (N.W. of Cape Coast) on 18 December 1976, Nakwa on 23 December 1976 and Tafo-Akim (E.R.) on 13 February 1977. Scarce around Accra on inland waters (Grimes 1972, Taylor in prep.).

WHIMBREL Numenius phaeopus (Fig. 1) Present throughout the year, but least frequent and least numerous in July. Evidence of passage with 12 birds on 23 and 27 August 1976 (compared with one in June and 1-2 until 18 September). Other counts variable, up to nine birds. Mainly coastal (including rocky shores) but a few inland records.

CURLEW N. arquata Recorded on 3 out of 6 counts in October 1976 (1-2 birds), 28 November (1) and 5 December (1). Then singles on 13 March, 1 May and 18 May 1977. My only other record is of ca. 3 at Weija (Accra) on 8 July 1977. Iture counts suggest a small autumn passage and an even smaller return movement. Grimes (1972) cites no records from Accra between late May and early August. Coastal.

BLACK-TAILED GODWIT Limosa limosa Three records, one Iture 23 August and 6 September, and three Cape Coast 3 September 1976 suggest an autumn passage only. The last two records were of birds with L. lapponica and N. phaeopus

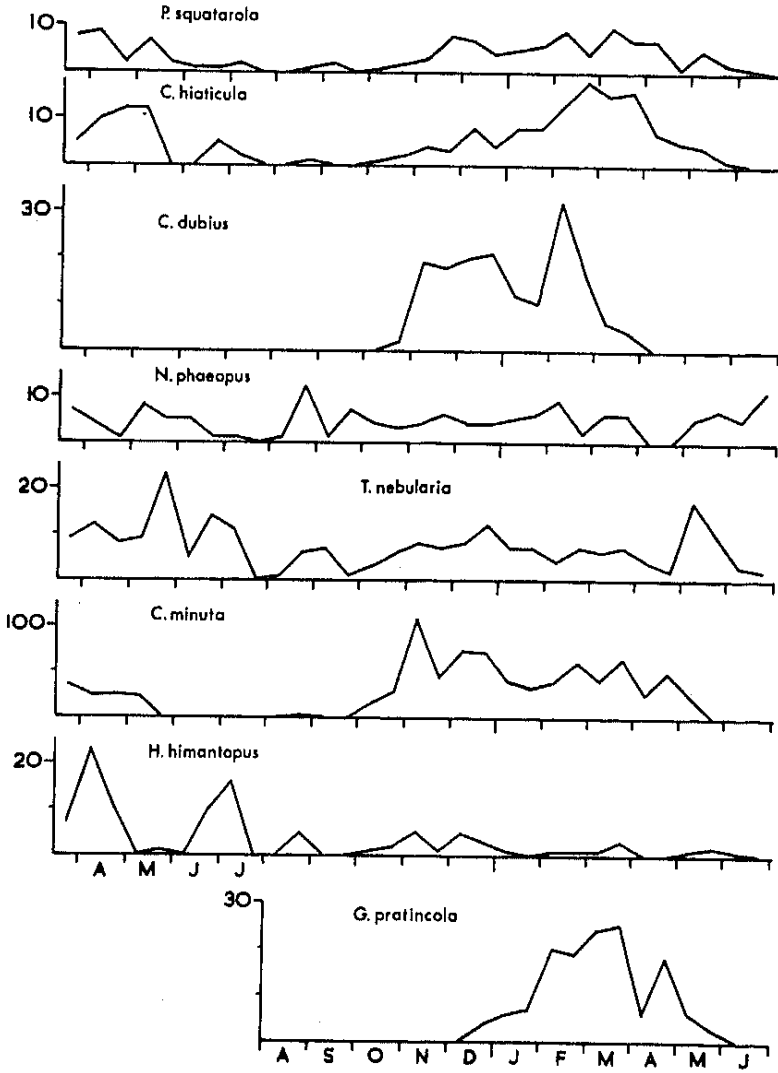

Figure 1 Abundance of seven species of wader and a pratincole at Iture, Ghana, March 1976–June 1977.

For convenience and to remove some of the minor variation between individual counts, points plotted are the maxima for 'half-month' (covering 2–5 counts).

respectively. Grimes (1972) gives Accra records late July to early October, and again in March. Coastal.

BAR-TAILED GODWIT L. lapponica Recorded at Ituire only on 31 March 1976 (1), 6 September 1976 (1) and 24 October 1976 (2). Regular at Elmina in very small numbers and local at other coastal lagoons. Earliest record ca. 10 birds at Shama 24 August 1976, but it is possible that these were summering birds. Coastal.

SHORT-BILLED DOWITCHER Limnodromus griseus One on 24 October 1976 (Macdonald 1977).

GREENSHANK Tringa nebularia (Fig. 1) Present throughout the year, but scarce mid-July to mid-August. Probable passage on 25 May 1976 with 23 birds (level before and after 0-3 birds), possibly also late June to early July 1976, 1 May 1977, 31 May 1977. Mainly coastal, but also inland in moderate numbers.

MARSH SANDPIPER T. stagnatilis Up to two birds present 24 March to 13 May 1976. One 23 August with other moving species. Regular 17 October to 27 December 1976 and 20 February to 27 March 1977 but absent January and early February. Species appears to have very special requirements and Ituire was much less favoured than Elmina so no conclusions can be drawn from Ituire dates. Mainly coastal, occasional inland.

WOOD SANDPIPER T. glareola A flocking species which was very variable in numbers, the variations probably reflecting the frequent visible local movements rather than passage. Absent from 1 May 1976 except for singles on 7 July and 14 July. 45 appeared with other species on 23 August (probable passage), and it then was recorded regularly until 5 May 1977. Mainly inland on waters and wetlands of all types.

GREEN SANDPIPER T. ochropus One bird on 20 February 1977 was the only record from Ituire. At Cape Coast singles were recorded in November and March. Frequent in small numbers inland at Tafo-Akim 12-13 February 1977.

COMMON SANDPIPER T. hypoleucos Recorded in every month, but scarcest in June. Numbers were usually below four, but 14 on 23 August 1976 and 11 on 7 March 1977 probably indicated passage. Mainly inland in wet habitats of all types.

REDSHANK T. totanus Recorded regularly but in small numbers up to 5 May 1976 and from 18 September 1976 to 20 April 1977. Two on 23 August 1976 were the only intervening records and the only evidence of passage. Coastal.

SPOTTED REDSHANK T. erythropus Common on coastal lagoons, but like T. glareola tended to move locally in large flocks and records from Ituire were irregular and variable in numbers. Recorded up to 1 May 1976 and between 10 October 1976 and 30 March 1977. References in Bannerman (1953) to large flocks of T. totanus in eastern Ghana were assumed by Grimes (1972) to be in error for T. erythropus. This is a tempting assumption in view of the present

status of the two species in Ghana but major changes in status cannot be excluded (see note below on Charadrius forbesi and C. marginatus). Mainly coastal.

TURNSTONE Arenaria interpres Recorded on 24 March (nine birds) and 1 May 1976 (four) then up to ten birds on 6 out of 8 counts between 24 June and 25 July 1976. Probable passage with other species on 23-27 August 1976, and regular between 5 December 1976 and 31 May 1977. Highest numbers up to 20 February (up to 24 birds), later no more than five. This seasonal pattern, as well as being different in the two springs, was quite different from that of any other species and unexpected for a northern migrant. Coastal, including rocky shores.

CURLEW SANDPIPER Calidris ferruginea Recorded at Iture on 7 occasions only: 13 April 1976 (1), 23 April (4), 29 June (9), 2 July (18), 23 August (9), 6 September (1) and 24 October 1976 (1). One bird was seen at Elmina on 5 March 1977. This irregular occurrence was in marked contrast to the large and frequent flocks found in the Accra area (Grimes 1972, Taylor in prep.). The June-August records probably represent passage birds. Coastal.

LITTLE STINT C. minuta (Fig. 1) The commonest wintering wader in the Cape Coast area. Recorded up to 5 May 1976. One bird arrived with the passage on 23 August 1976, but main attendance began on 3 October. Large influx and probable passage 1-4 November (108 birds), 12 November, and 28 November 1976, settling to around 40-50 birds for the rest of the winter. Numbers began to decrease 27 April 1977, last date 8 May. Mainly coastal.

SANDERLING C. alba One record of a single bird at Iture on 13 April 1976. In the Cape Coast area this was almost totally restricted to the sandy seashore where it frequented the latrine areas of the coastal villages. Records fell between 22 August and 5 March, but season possibly longer.

RUFF Philomachus pugnax Three records only, on 1 November 1976 (3 birds), 7 November (1) and 1 December 1976 (1). My only other record is of one at Nakwa on 23 December 1976. Like C. ferruginea this is much commoner in the Accra area (Grimes 1972).

BLACK-WINGED STILT Himantopus himantopus (Fig. 1) Breeding has not been proved in the Cape Coast area, but birds do breed in the wet season at Weija. Records at Iture were: between 24 March and 23 April 1976 (peak of 23 on 13 April); one on 25 May; five, ten and 16 on 24 June, 29 June and 2 July 1976; five on 23 August with other species; up to five birds regularly between 10 October 1976 and 7 January 1977; up to three between 5 February and 13 April 1977; and up to two birds from 11 May to 5 June 1977. The flock of 23 in April 1976 may represent return passage of Palaearctic birds and the August record the autumn passage, but the build-up in June and July seems most likely to have involved the local population. Moreau (1972) considered that most of the stilts in the northern tropics in winter were northern migrants. Recorded more frequently 1975-76 than 1976-77. Mainly coastal.

PRATINCOLE Glareola pratincola (Fig. 1) Full counts were not made in 1975-76 but the high numbers of birds in February-March disappeared in the second half of March and the species was absent during the wet season. No local breeding was suspected. One bird was recorded on 19 December 1976 and from 30 December species was regularly recorded. Highest numbers were in early February to late April (but were well below the levels of the previous year - less than 30 compared with over 50). Fluctuations indicating possible passage during March. After 18 May 1977 only one pair of breeding birds was present, from 13 June with a single flying chick. A few pairs bred nearby at Elmina. The more numerous breeders at Weija arrive from February onwards (Grimes 1972) Coastal.

Two other species of northern wader were noted at other localities in Ghana. An Avocet Recurvirostra avosetta was at Elmina on 11 January 1976, and Snipe Capella gallinago were recorded on four occasions between December and February at Akuse, Accra, Tafo-Akim and Nakwa.

Two species which were not recorded during the period were Forbes' Banded Plover Charadrius forbesi and the White-fronted Sand Plover C. marginatus. In 1872 Shelley collected both on salt pans at Cape Coast and described C. marginatus as common. J. M. Winterbottom also found it common in 1930 (Bannerman 1931). This suggests a major change in status of C. marginatus in the last 30 years, and possibly of C. forbesi over a longer time. C. marginatus still breeds on the Accra Plains while C. forbesi appears to have become less frequent there in the last 20 years (Grimes 1972).

Discussion

The broad picture of wader seasons obtained at Iture compares well with that given by Grimes (1972, 1974) for the Accra Plains (especially the salt-pans at Weija). The same species were recorded during the summer months with the exception of Limosa lapponica, Tringa totanus and Calidris ferruginea two of which were so uncommon in the Cape Coast area that absence of summer records at Iture was not surprising.

More interesting was the difference in arrival dates of individual species in the two areas, the arrival in Accra tending to be considerable earlier than at Cape Coast. Grimes (1974) gave arrival dates at Weija for 1966, 1968 and 1970 which indicated that, with the exception of T. erythropus which arrived in late August-early September, waders came in fairly regularly in late July to early August. Arrival dates were between 3 weeks (N. phaeopus T. nebularia and C. minuta) and 9-12 weeks (P. squatarola and C. hiaticula), later at Iture than at Accra. The departure dates for the same species were much more comparable (Table 1). In Senegal arrival dates were slightly later than at Weija but in all cases were earlier than at Cape Coast (Morel & Roux 1966 cited by Grimes 1974).

Grimes (1974) suggested that waders entered West Africa by two routes: direct across the Sahara and along the coast from Morocco southwards. This

was supported by radar observations of departing waders at Accra, and explained the difference between the dates of arrival in Senegal and Accra. If the Cape Coast birds arrive by one of these routes (as it seems they must) some attempt must be made to explain the consistently later arrival of the waders there.

Two fairly obvious alternative hypotheses may be advanced here. Either the Cape Coast birds move in from another coastal site occupied earlier, in which case the distance (150 km from Accra in the east and 2400 km from Senegal in the West) and time-lags involved make it seem more probable that any movement is along the coast from Senegal, or some ecological factor is involved. The Accra Plains and the Cape Coast plains, although so close to each other, are very different in climate and ecology, the former being dry savanna and the latter moist coastal plain. These differences are reflected mainly in the land-bird fauna, but it is not impossible that conditions in the Cape Coast area do not become suitable for migrant waders until several weeks after they occupy the dry eastern plains, when they may move in from dryer inland or coastal areas.

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